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- AN - PREV199497516500
- RN - 6217-54-5Q (DOCOSAHEXAENOIC ACID); 25167-62
(DOCOSAHEXAENOIC ACID); 506-32-1 (ARACHIDONIC ACID);
57-88-5 (CHOLESTEROL)
- TI - The importance of dietary eicosapentaenoic to
docosahexaenoic acid ratio in modulation of serum lipid
and arachidonic acid levels
- AB - The effect of feeding diets varying in
eicosapentaenoic/docosahexaenoic (EPA/DHA) acid ratio on
serum cholesterol, triacylglycerol and fatty acyl chain
composition was determined. Male Sprague-Dawley rats were
fed EPA or DHA enriched diets and their serum lipid levels
and fatty acid profiles compared with those fed diets rich
in saturated fatty acids (BT) or linoleic acid (SFO). Both
the EPA and DHA enriched diets lowered cholesterol content
in the serum to the same degree. Serum total cholesterol
to HDL-cholesterol ratio was reduced by EPA rich diet
while DHA enriched diet had no effect. Both the diets
enriched with omega-3 fatty acids lowered serum
triacylglycerol level. Although statistically
insignificant, the DHA rich diet had a tendency to lower
triacylglycerol more efficiently than EPA. The serum
arachidonic acid (AA) content was reduced by EPA enriched
diet only, not by DHA. The fatty acid composition of
phospholipid, triacylglycerol, and cholesteryl ester
fractions of serum lipids was affected differently by the
EPA and DHA enriched diets. These results suggest that the
dietary ratio of EPA/DHA may be an important determinant
of the lipid-lowering and anti-thrombotic potential of
different marine oils.
- IW - ** Major Concepts **
Blood and Lymphatics (Transport and Circulation) ;
Cardiovascular System (Transport and Circulation) ;
Metabolism; Nutrition
- ** Organisms **
(Muridae): rat
- ** Taxanotes **
Animals, Chordates, Mammals, Nonhuman Vertebrates,
Nonhuman Mammals, Rodents, Vertebrates
- ** Super Taxa **
Rodentia, Mammalia, Vertebrata, Chordata, Animalia
- ** Chemicals and Biochemicals **
DOCOSAHEXAENOIC ACID; ARACHIDONIC ACID; CHOLESTEROL
- AW - ** Miscellaneous Descriptors **
ANTI-THROMBOTIC POTENTIAL; ATHEROSCLEROSIS; CHOLESTEROL;
DIETARY INTERVENTION; FATTY ACIDS; OILS; PREVENTION;
TRIACYLGLYCEROL
- PBC - 86375
- PCC - 10066, Biochemistry studies - Lipids
10067, Biochemistry studies - Sterols and steroids
13006, Metabolism - Lipids

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13008, Metabolism - Sterols and steroids
13218, Nutrition - Prophylactic and therapeutic diets
13222, Nutrition - Lipids
14508, Cardiovascular system - Blood vessel pathology
15002, Blood - Blood and lymph studies
15006, Blood - Blood, lymphatic and reticuloendothelial
pathologies

PUB - Nutrition Research
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